

**Please print the following information:**

Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone Numbers: Work \_\_\_\_\_ Other \_\_\_\_\_

What license type is needed/held (circle one)? A. Commercial B. Noncommercial C. Private

If you have a Utah pesticide applicator license, what is the number? \_\_\_\_\_

Social Security Number (for identification / optional) \_\_\_\_\_

## Pesticide Use Worksheets

**INSTRUCTIONS:** This worksheet may be completed using a pen or pencil. Answer each question completely and write all answers legibly. The answers for this worksheet may be found on this CD or by reading the following references: (1) Applying Pesticides Correctly: A Guide for Private and Commercial Applicators, (2) Applying Pesticides Correctly: A Supplemental Guide for Private Applicators, and (3) Utah Pesticide Control Act R68-7.

1. What is the definition of a pest and what are examples of the following types of pests?

Definition of a pest: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Give three examples of each of the following pest types.

A. Three examples of insect pests are:

\_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

B. Three examples of weed pests are:

\_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

C. Three examples of vertebrate pests are:

\_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

D. Three examples of microbial organism pests are:

\_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

2. Accurate identification is the first step in an effective pest management program. What are three characteristics and/or attributes of a pest that will assist an applicator in identifying and controlling pests? One example of a characteristic and/or attribute that will assist in identifying a pest is: *Development and biology of the pest*.

Other characteristics and/or attributes that assist in pest identification:

A. \_\_\_\_\_

B. \_\_\_\_\_

C. \_\_\_\_\_

3. When trying to control a pest, the goal is to achieve prevention, suppression, and/or eradication. What are examples of locations or situations where each goal is appropriate for the pest control?

A. Pest prevention is the goal when: \_\_\_\_\_

\_\_\_\_\_

B. Pest suppression is the goal when: \_\_\_\_\_

\_\_\_\_\_

C. Pest eradication is the goal when: \_\_\_\_\_

\_\_\_\_\_

4. There are a variety of pest control strategies that may be utilized by applicators. What are two examples for each of the following pest control strategies?

A. Two examples of biological control strategies are:

\_\_\_\_\_ and \_\_\_\_\_

B. Two examples of cultural control strategies are:

\_\_\_\_\_ and \_\_\_\_\_

C. Two examples of mechanical control strategies are:

\_\_\_\_\_ and \_\_\_\_\_

D. Two examples of chemical control strategies are:

\_\_\_\_\_ and \_\_\_\_\_

5. What are the advantages and disadvantages of the following pesticide formulations?

Select only one letter per blank.

Formulations:

Advantage and disadvantage:

A. Emulsifiable concentrate (EC)

\_\_\_\_\_ No further dilution is required and has a low concentration (1 percent) of active ingredients

B. Ultra-low-volume (ULV)

\_\_\_\_\_ Low drift hazard, slow release possible, does not stick to foliage, and may be hazardous to birds

C. Wettable powder (WP)

\_\_\_\_\_ Usually ready to use - with no mixing, but easily drifts off target and even distribution is difficult

D. Ready to use (RTU)

\_\_\_\_\_ Easily handled, transported, and stored, but high concentration makes it easy to under or over-dose

E. Granule (G)

\_\_\_\_\_ May be used as is or diluted, has high drift hazard, and requires specialized application equipment

F. Dust (D)

\_\_\_\_\_ Easily measured and mixed, will not dissolve in water, requires constant agitation, and clogs nozzles

6. What are six examples of personal protective equipment (PPE) that are used during the mixing, handling, and application of pesticides?

A. \_\_\_\_\_

D. \_\_\_\_\_

B. \_\_\_\_\_

E. \_\_\_\_\_

C. \_\_\_\_\_

F. \_\_\_\_\_

7. Adjuvants are chemicals added to pesticide formulations or tank mixes to increase a pesticide's effectiveness or safety. What are the dispensing, spreading, and/or wetting properties for the following adjuvants? Select only one letter per blank.

<u>Adjuvants:</u>	<u>Dispensing, spreading, and/or wetting properties:</u>
A. Penetrant	_____ Allows pesticides to adhere to the surface of the plant treated
B. Thickener	_____ Allows pesticides to form an uniform coating over treated surfaces
C. Spreader	_____ Allows pesticides to be mixed with diluents or other pesticides of different acidity or alkalinity
D. Sticker	_____ Allows petroleum based pesticides to mix with water
E. Buffer	_____ Allows pesticides to pass through the outer covering of the treated pest
F. Emulsifier	_____ Reduces drift by increasing the size of spray droplets

8. The skin is the part of the body that usually receives the most exposure when an applicator handles pesticides. Where on the human body does the skin receive the most exposure during pesticide handling? Circle only one body part.

- A. head
- B. neck
- C. hands
- D. feet

9. Some pesticides are available in different formulations and each formulation has different advantages and disadvantages. Match the application conditions with the appropriate pesticide formulation types. Select only one letter per blank.

<u>Conditions or equipment:</u>	<u>Suitable formulations:</u>
A. Only spray boom available	_____ High pressure sprays, aerosols, and ultra-low-volume (ULV) formulations
B. High risk of spray runoff	_____ Granular or pellet formulation or low pressure spray with coarse droplet size
C. Mixing/diluting not possible	_____ Solutions, concentrated solutions, flowables, and emulsifiable concentrates
D. To control flying insects	_____ Dry formulations such as granules, pellets, and dust
E. Wind or air currents present	_____ Ready-to-use formulation in plastic spray bottle

10. Why is it important that a pesticide applicator regularly check the calibration of application equipment?

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11. Pesticide spray equipment is calibrated to deliver a uniform and consistent volume of pesticide over a given area. The variables that may be adjusted include, effective spray width of application, travel speed of spray equipment, spray nozzle pressure, and spray nozzle size and type. If the other parameters remain the same, will the application rate, in gallons per acre, increase or decrease when each of the following variables is changed? Check increases or decreases for each variable change.

<u>Variable changed with other variables and equipment remain unchanged:</u>	<u>Application rate (gallons/acre)</u>
A. Increase spray nozzle pressure by 25 percent	9 Increases
	9 Decreases
B. Increase the spacing between nozzles	9 Increases
	9 Decreases
C. Install spray nozzles with a higher delivery rate	9 Increases
	9 Decreases
D. Reduce travel speed 25 percent	9 Increases
	9 Decreases

12. Correct mixing and loading of pesticides and calibration of spray equipment are essential for accurate pesticide applications. Given the following parameters, what is the answer to the following questions?
- A. A rectangular turf area measures 69 feet by 42 feet. If a pesticide formulation is applied at a rate of 3 ounces per 1,000 square feet, how many \_\_\_\_\_ oz. ounces are required?
- B. A rectangular pasture measures 845 feet by 670 feet. There are 43,560 square feet in an acre. If a pesticide formulation is applied at a rate of 0.4 \_\_\_\_\_ gal. gallons per acre, how many gallons are required?
- C. A mixture of pesticide and water is applied to turf at a rate of 0.5 gallons per 1,000 square feet. If the total application site is 3,800 square feet, how many \_\_\_\_\_ gal. gallons are required?
- D. A mixture of pesticide and water is applied to pasture at a rate of 12 gallons per acre. If the total application site is 25.25 acres, how many gallons are \_\_\_\_\_ gal. required?
- E. A 4-wheeler with a small boom sprayer travels 165 feet in 45 seconds. What \_\_\_\_\_ mph is the travel speed in miles per hour?
- F. A tractor mounted boom sprayer travels 110 feet in 15 seconds. What is the \_\_\_\_\_ mph travel speed in miles per hour?

**When these worksheets are complete begin work on the Pesticide Law Post Test. Maintain these sheets to be turned in with the pretest and post test.**